ABSTRACT

A single crystal semiconductor manufacturing method for realizing a dislocation-free single crystal while not varying or hardly varying electric power supplied to a heater when and after a seed crystal comes into contact with a melt. The allowable temperature difference ΔTc not causing dislocation in the seed crystal is determined according to the concentration (C) of the impurities added to the seed crystal (14) and the size (diameter D) of the seed crystal (14). When the seed crystal (14) comes into contact with the melt (5), electric power supplied to a bottom heater (19) is fixed, and a magnetic field produced by a magnet (20) is applied to the melt (5). Electric power supplied to a main heater (9) is controlled so that the temperature at the surface of the melt (5) which the seed crystal (14) comes into contact with may be a target value. After the seed crystal (14) comes into contact with the melt (5), single crystal silicon is pulled up without performing a necking process.